User Manual

Pan-Tilt IP Camera

WARINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

COPYRIGHT

THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

Content

I. PREFACE 4

II. PRODUCT SPECIFICATIONS 4

III. PRODUCT INSTALLATION 6

A. MONITOR SETTING 6

B. HARDWARE INSTALLATION 7

C. IP ASSIGNMENT 7

D. INSTALL ACTIVEX CONTROL: 10

IV. LIVE VIDEO 12

V. IP CAMERA CONFIGURATION 14

A. SYSTEM 15

B. NETWORK 18

C. A/V SETTING 23

D. EVENT LIST 29

VI. NETWORK CONFIGURATION 32

VII. FACTORY DEFAULT 34

VIII. PACKAGE CONTENTS 34

APPENDIX I 34

V1.7 2007/JUNE/21

I. Preface

This IP Camera is a Pan-Tilt IP camera. It has the web server built in. User can view real-time video via IE browser. IP Camera supports simultaneously MPEG-4&JPEG video compression which provides smooth and high video quality. The Pan-Tilt function can be controlled remotely. The video can be stored in the SD card, and playback remotely. With user friendly interface, it is an easy-to-use IP camera which is designed for security application.

II. Product Specifications

- Pan/Tilt remote control
- Support two streaming
- MPEG4&JPEG compression
- Supports SD card for local recording
- Wireless network connection〔Optional〕
- 2-way audio
- Support Cell Phone/PDA
- Support 3GPP
- Online firmware upgrade
- Compatible with Microsoft Windows Media Player

Specifications

Hardware	
CPU	ARM 9, 32 bit RISC
SDRAM	64MB
Flash	8MB
Image sensor	1/4” CCD
Lens	3.6mm,F2.0
Video Out	1-ch RCA type (CBVS Monitor output)
Audio in/ out	1 in/ 1 out (3.5 mm Phone Jack)
Alarm I/O	1 in/ 1 out
Pan angle	270°
Tilt angle	120°

Power Consumption	LAN: 5V, 1.3A / WLAN: 5V, 1.5A
Dimensions (W×H×D)	105x128.6x105 mm
Network	
Ethernet	10/ 100 Base-T
Wireless	802.11b/g (Optional)
WEP	64/ 128 bit
Network Protocol	HTTP, TCP/ IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, 3GPP, UPnP
System	
Video Resolution	NTSC：720x480, 704x480, 352x240, 176x120 PAL ：720x576, 704x576, 352x288, 176x144
Video adjust	Brightness, Contrast, Saturation, Hue
Dual Streaming	Yes
Image snapshot	Yes
Full screen monitoring	Yes
Pan/ Tilt control	Yes, remotely
Preset Point	8
Patrol	Yes
Auto Pan	Yes
Pan/ Tilt speed control	Yes
Compression format	MPEG-4/ JPEG
Video bitrate adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered action	Mail, FTP, Save to SD card
Pre/ Post alarm	Yes, configurable
Security	Password protection
Firmware upgrade	HTTP mode, can be upgraded remotely
Simultaneous connection	Up to 10
Audio	Yes, 2-way
SD card management	
Recording trigger	Motion Detection, IP check, Network status (wire connection only)
Video format	AVI,JPEG
Video playback	Yes
Delete files	Yes
Web browsing requirement	

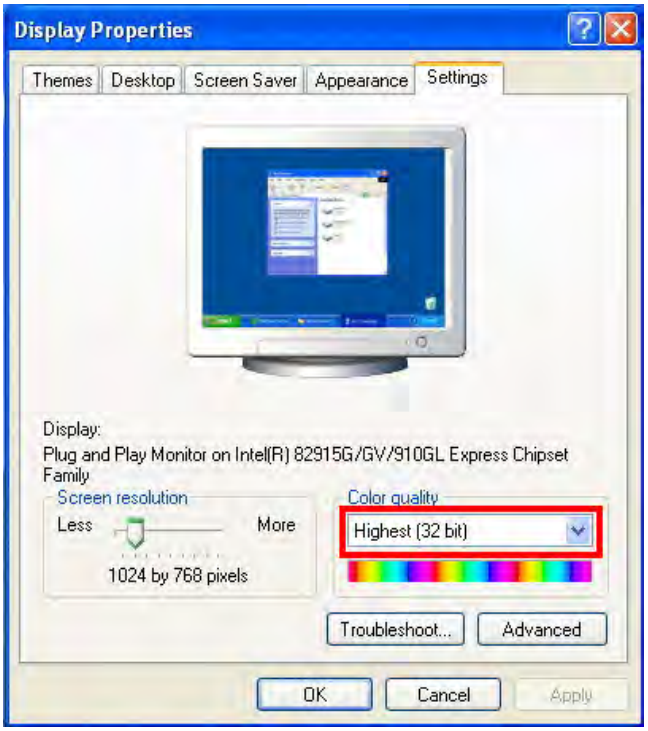
OS		Windows 2000, XP, 2003, IE 6 or above
Hardware	Suggested	Intel-C 2.0G, RAM : 512MB, Graphic card : 64MB
	Minimum	Intel-C 1.6G, RAM : 256MB, Graphic card : 32MB

III. Product Installation

A. Monitor Setting

i. Right-Click on the desktop. Select " Properties"

ii. Change color quality to highest (32bit).



B. Hardware Installation

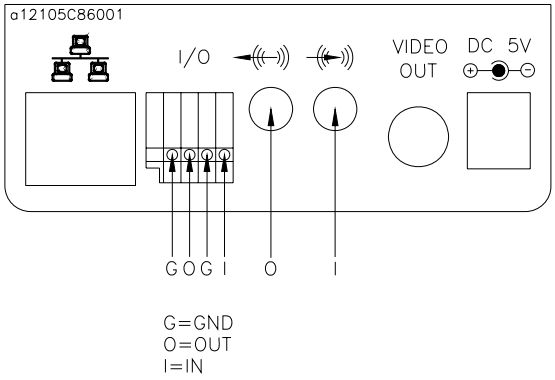
i. Connect power adaptor

ii. Connect IP Camera to PC or network with Ethernet cable

iii. Connect IP Camera to PC or network

iv. Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI, “Network Configuration for IP Camera”.

v. Back Panel for your reference



C. IP Assignment

i. Use the software, “IP Installer” to assign the IP address of IP Camera. The software is in the attached CD.

ii. There are two languages for the IP installer

a. IPInstallerCht.exe：Chinese version

b. IPInstallerEng.exe：English version

iii. There are 3 kinds of IP configuration.

a. Fixed IP (Public IP or Virtual IP)

b. DHCP (Dynamic IP)

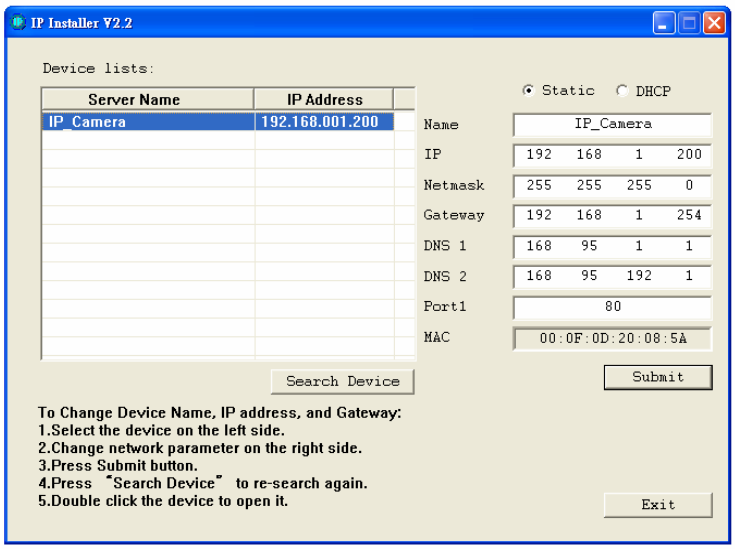
c. Dial-up (PPPoE)

iv. Execute IP Installer

v. For Windows XP SP2 user, it may popup the following message box. Please click “Unblock”.

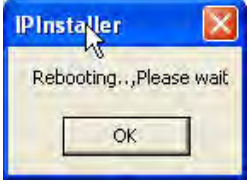
Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: IPInstaller V2.1 Network Device Scan
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

vi. IP Installer configuration:



vii. IP Installer will search all IP Cameras connected on Lan. The user can click “Search Device” to search again.

viii. Click one of the IP Camera listed on the left side. The network configuration of this IP camera will show on the right side. You may change the “name” of the IP Camera to your preference (eg: Office, warehouse). Change the parameter and click “Submit” then click “OK”. It will apply the change and reboot the Device.



ix. Please make sure the subnet of PC IP address and IP CAM IP address are the same.

The same Subnet:

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

Different Subnets:

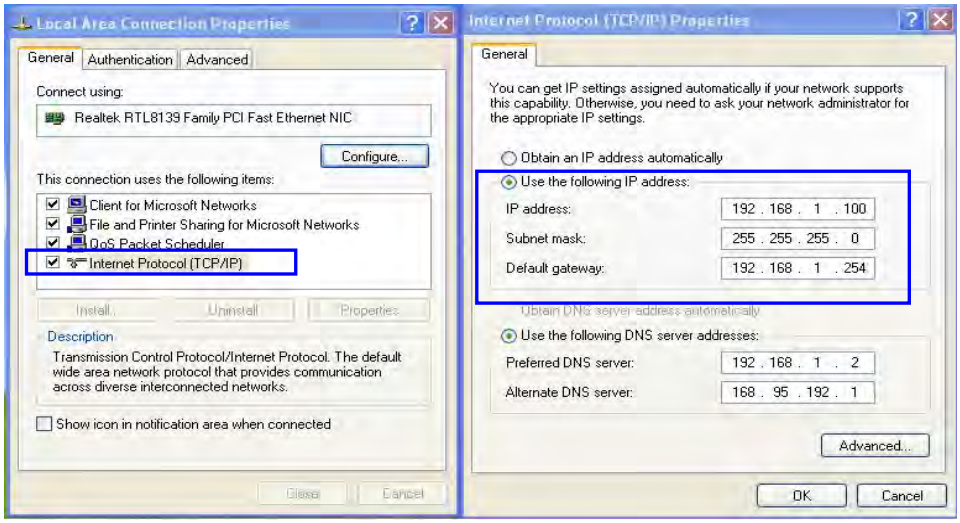
IP CAM IP address: 192.168.2.200

PC IP address: 192.168.1.100

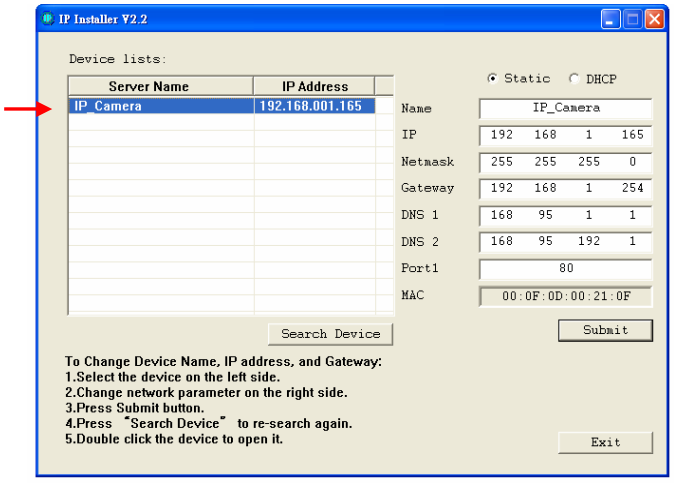
To Change PC IP address:

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera subnet or PC IP subnet accordingly.


Local Area Connection Properties
General
Authentication
Advanced
Connect using:
Realtek RTL8139 Family PCI Fast Ethernet NIC
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
QoS Packet Scheduler
Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
Close
Cancel
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 1 . 2
Alternate DNS server: 168 . 95 . 192 . 1
Advanced...
OK
Cancel

x. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.



xi. Then, please key in the default “user name: admin” and “password: admin”.

D. Install ActiveX control:

For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

IP CAMERA - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
http://192.168.1.217/
This site might require the following ActiveX control: 'Hunt Verisign Control' from 'Hunt Electronic Co.,Ltd', Click here to install...

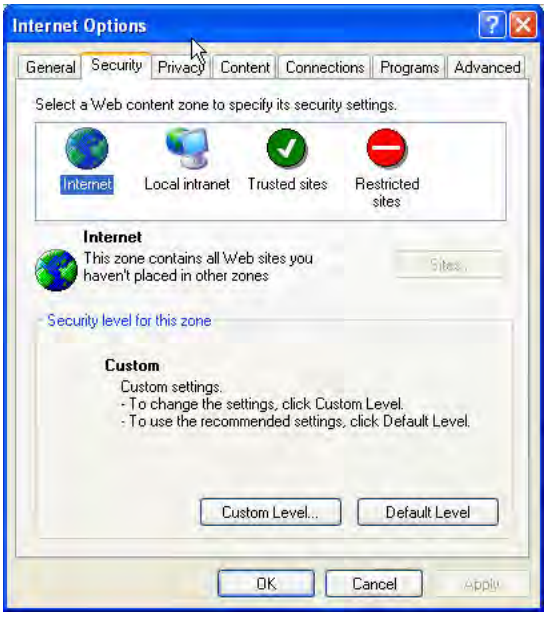
If the installation failed, please check the security setting for the IE browser.

i. IE → Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select “Enable” or Prompt.

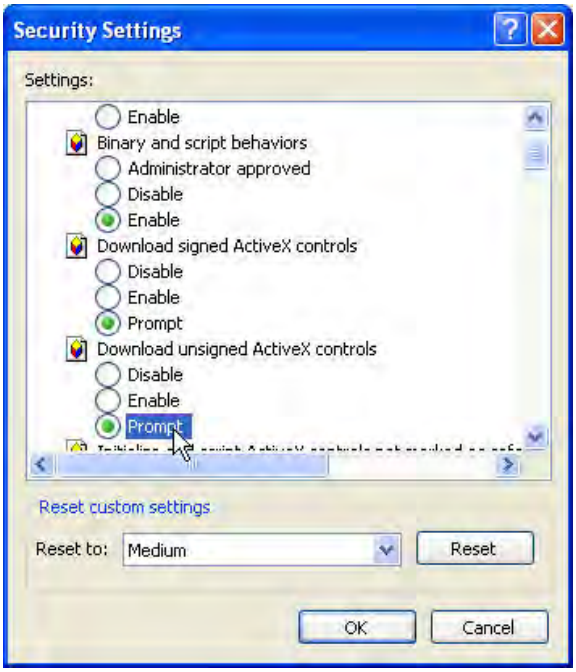
ii. IE → Tools → Internet Options… → Security Tab → Custom Level… →Initialize and script ActiveX controls not marked as safe → Select “Enable” or Prompt.

1

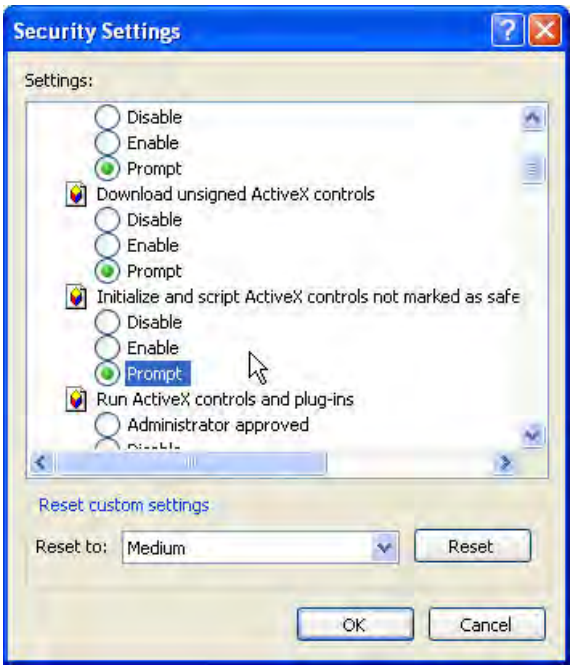
2



3

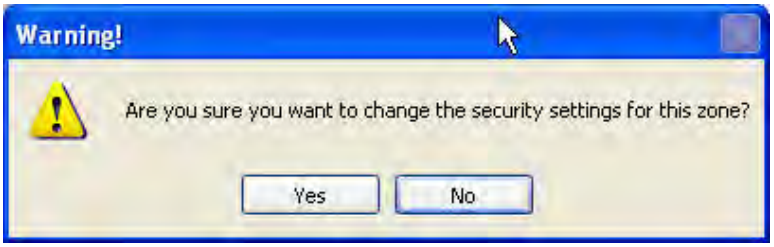


4



5

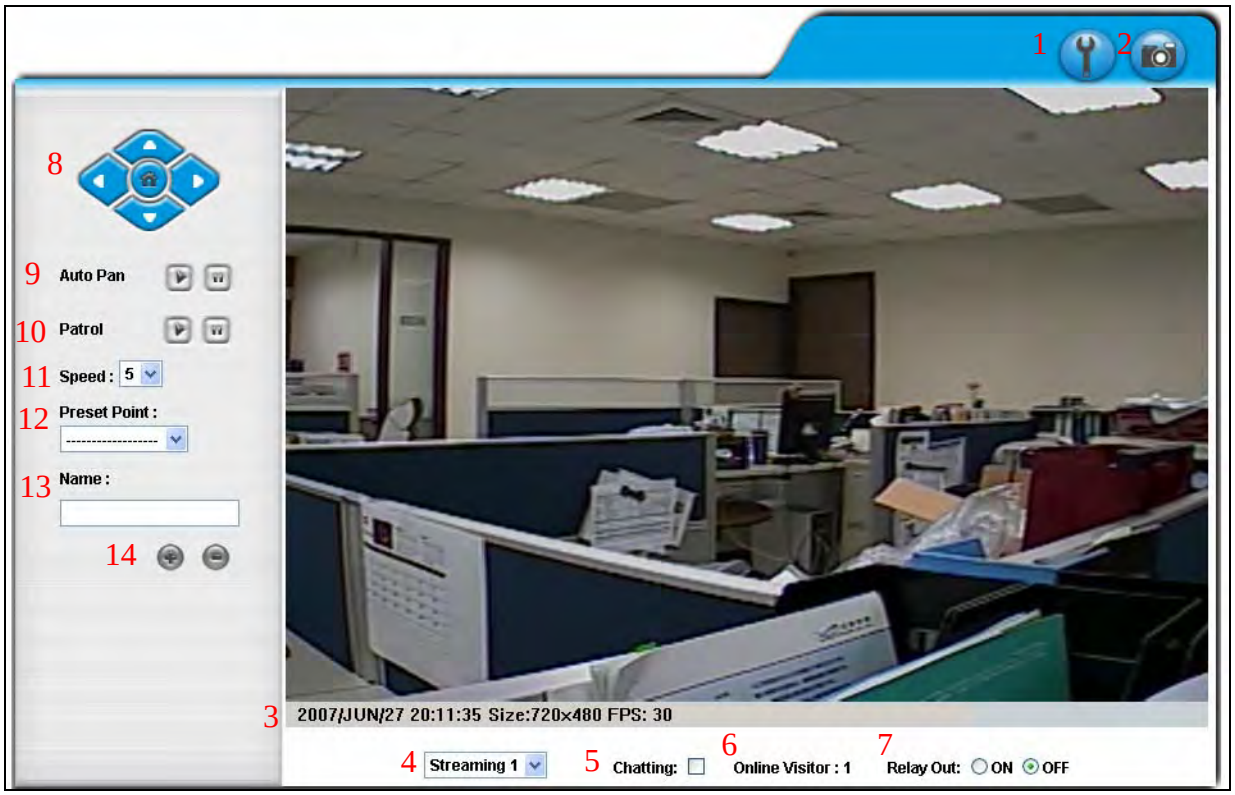
When popup the following dialogue box, click “Yes”.



IV. Live Video

Start an IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are "**admin**" and "**admin**".

When connect to the IP Camera。The following program interface shows.



1. ：Get into the administration page

2. ：Video Snapshot

3. Show system time, video resolution, and video refreshing rate
4. Select video streaming source **(When streaming 2 setting in『Video Setting』 is closed, this function will not display)**
5. IP Camera supports 2-way audio. Click the “Chatting” check box. Then you can use microphone which connect to the PC to talk to server side, which is IP Camera side.
6. Shows how many people connect to this IP camera
7. Relay out: On or Off
8. Pan Tilt control of this IP camera
9. Auto Pan：The camera will pan horizontally.
10. Patrol：The camera will move alone with the preset points.
11. Speed：The speed of the camera move.
12. Preset Point
13. Set up the name of the preset point
14. Add/ remove preset point

Double-click the video, it will change to full screen mode. Press “Esc” or double-click the video again, it will change back to normal mode.

Right-Click the mouse on the video, it will show a pop-up menu.

1. Snapshot：Save a JPEG picture
2. Record Start：Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select “Record Stop”. The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Mute：Turn of the audio. Click again to turn on it.
4. Full Screen：Full-screen mode.

V. IP Camera Configuration

Click to get into the administration page. Click to back to the live video page.

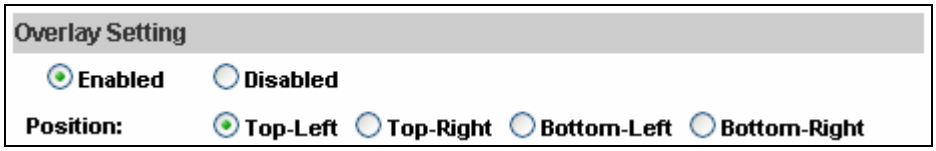
A. System

i、 System Information

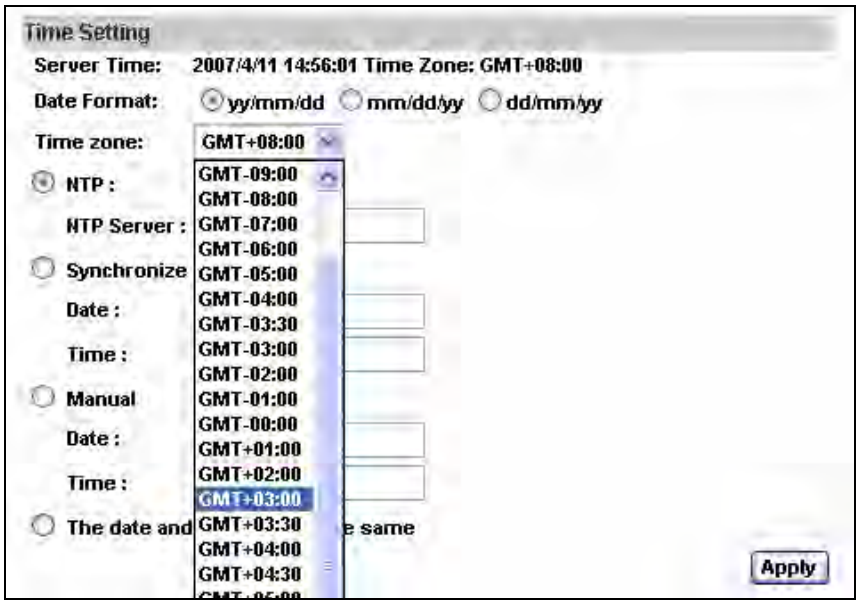
a. Server Information：Set up the camera name, select language, and set up the camera time.

1. Server Name：This is the Camera name. This name will show on the IP Installer.
2. Select language：There are English, Traditional Chinese, and Simple Chinese to select. When change, it will show the following dialogue box for the confirmation of changing language.

b. Overlay Setting (Display Time&Date on Screen)

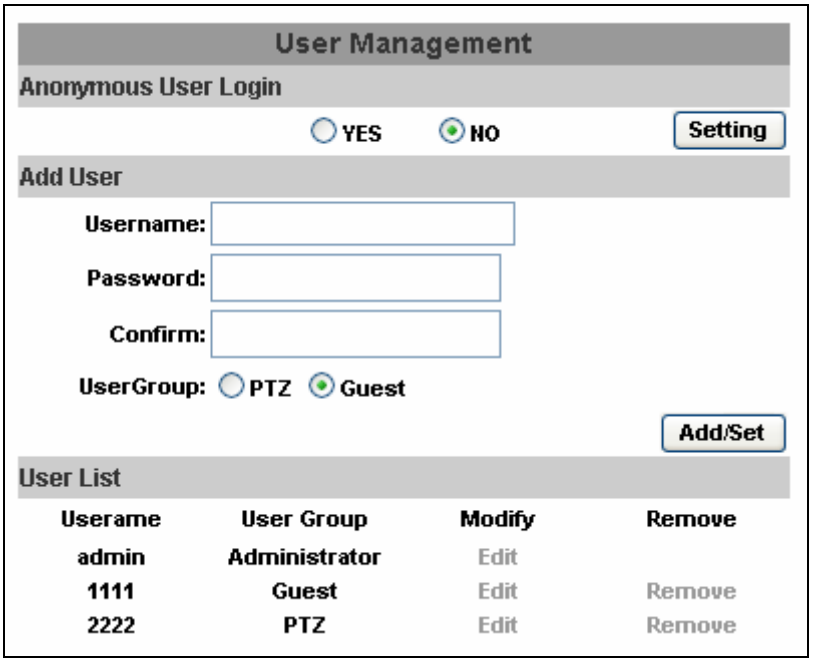


c. Server time setting：Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.



ii、 User Management

IP Camera supports three different users, administrator, general user, and anonymous user.



a. Anonymous User Login：

Yes：Allow anonymous login

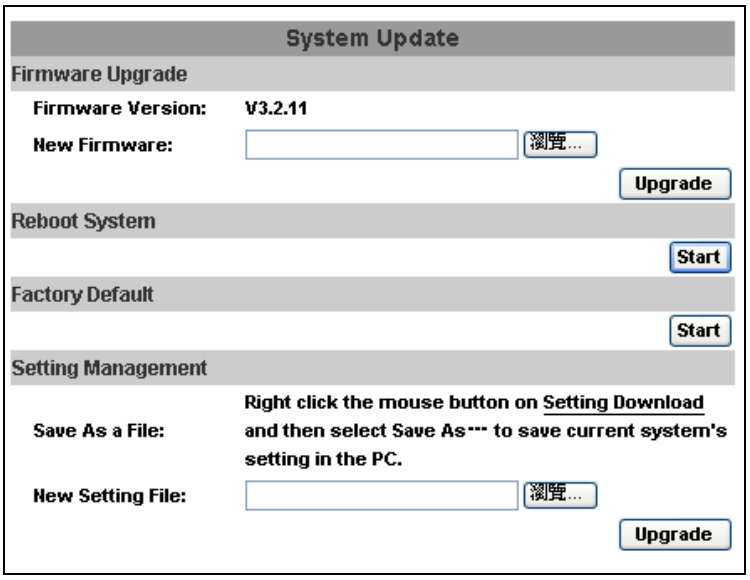
No：Need user name & password to access this IP camera

b. Add user：

Type the user name and password, then click “Add/Set”.

c. Click “edit” or “delete” to modify the user.

iii、 System update：



a. To update the firmware online, click “Browse…” to select the firmware. Then click “Upgrade” to proceed.

b. Reboot system：re-start the IP camera

c. Factory default：delete all the settings in this IP camera.

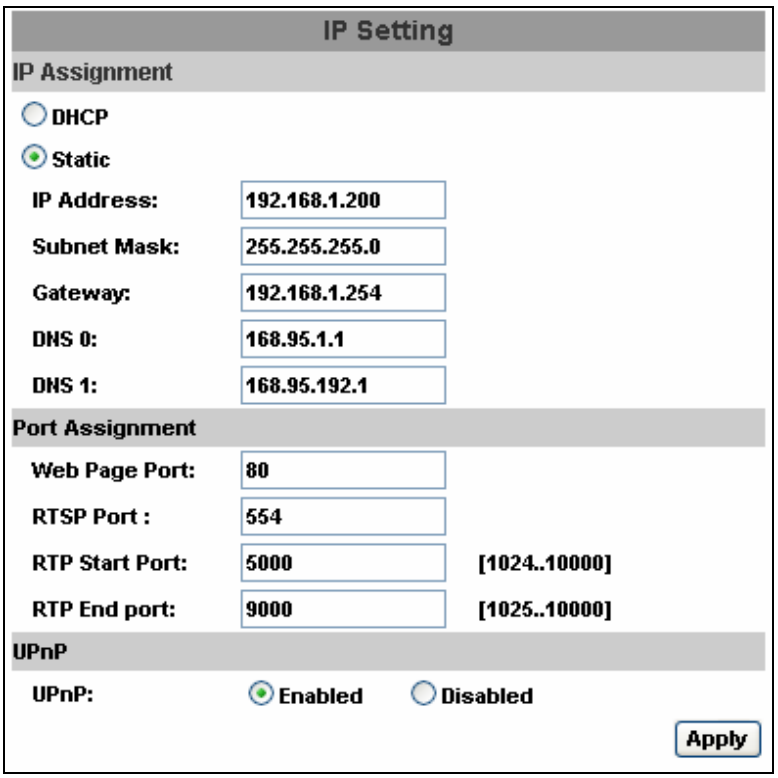
d. Setting Management：User may download the current setting to PC, or upgrade from previous saved setting.

   1. Setting download:
      Right-click the mouse button on Setting Download → Select “Save AS…” to save current IP CAM setting in PC → Select saving directory → Save
   2. Upgrade from previous setting
      Browse → search previous setting → open → upgrade → Setting update confirm → click **index.html**. to return to main page

B. Network

i、 IP Setting

IP Camera supports DHCP and static IP.



a. DHCP: Using DHCP, IP CAMERA will get all the network parameters automatically.

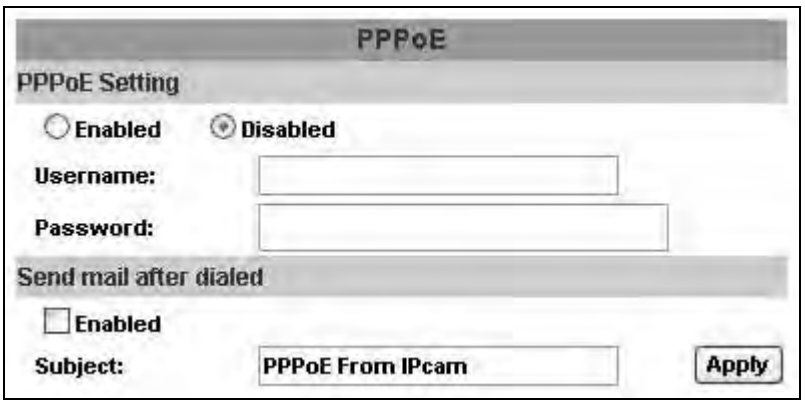
b. Static IP: Please type in IP address, subnet mask, gateway, and DNS manually.

c. Port assignment:

1. Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
2. RTSP Port: setup port for RTSP transmitting (Default: 554)
3. RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

d. UPnP (Universal Plug and play): Display UPnP device icon in 『My Network Places』 for hyper link.

ii、 PPPoE：



Select “Enabled” to use PPPoE.

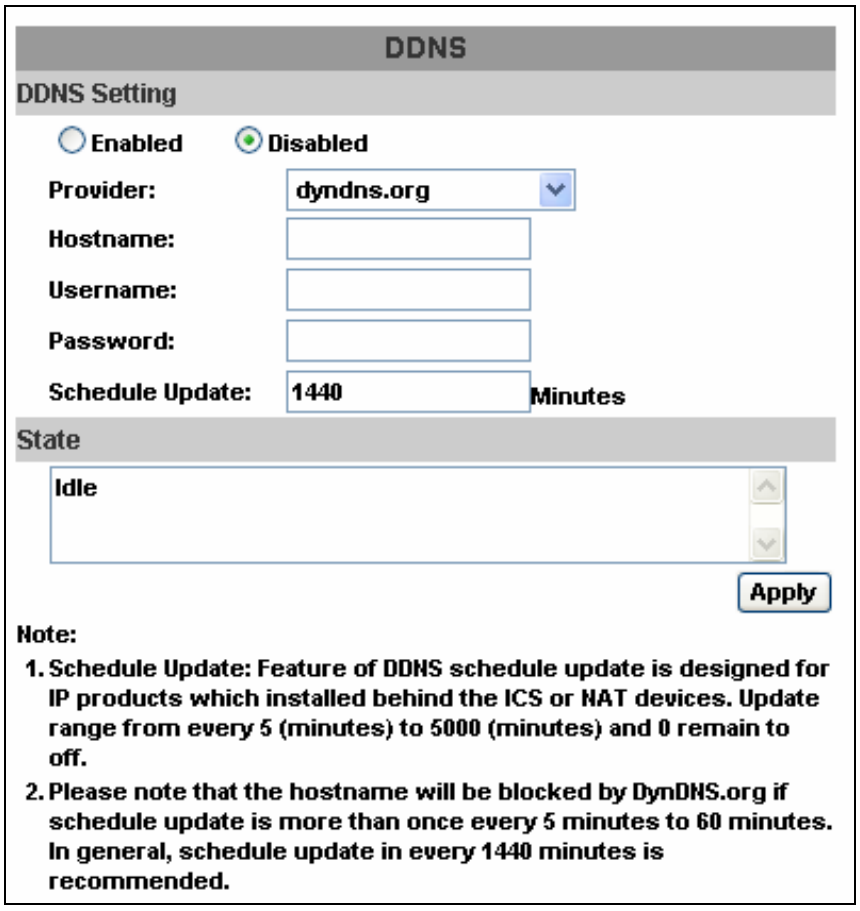
Key-in Username and password for the ADSL connection.

Send mail after dialed：When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to “Mail and FTP” settings.

iii、 DDNS：

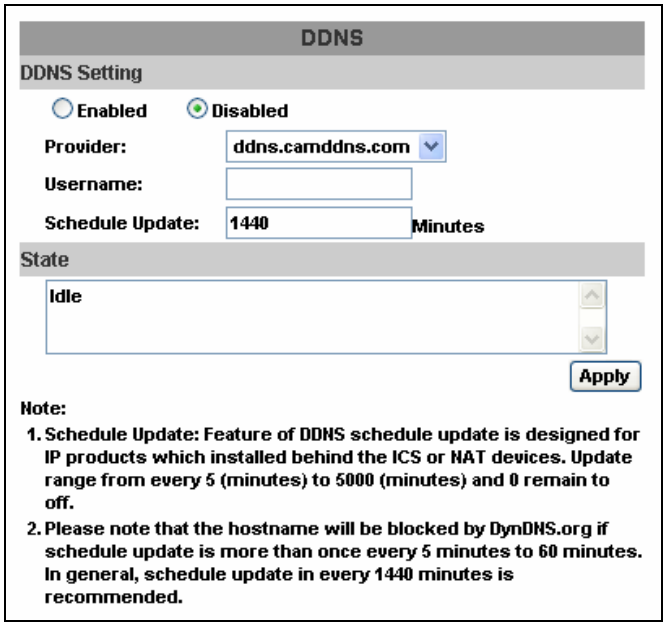
IP Camera supports DDNS (Dynamic DNS) service.

a. DynDNS：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
dyndns.org
Hostname:
Username:
Password:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Enable this service
2. Key-in the DynDNS server name, user name, and password.
3. Set up the IP Schedule update refreshing rate.
4. Click “Apply”
5. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

b. Camddns service：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
ddns.camddns.com
Username:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Please enable this service
2. Key-in user name
3. IP Schedule update is default at 1440 minutes
4. Click “Apply”.

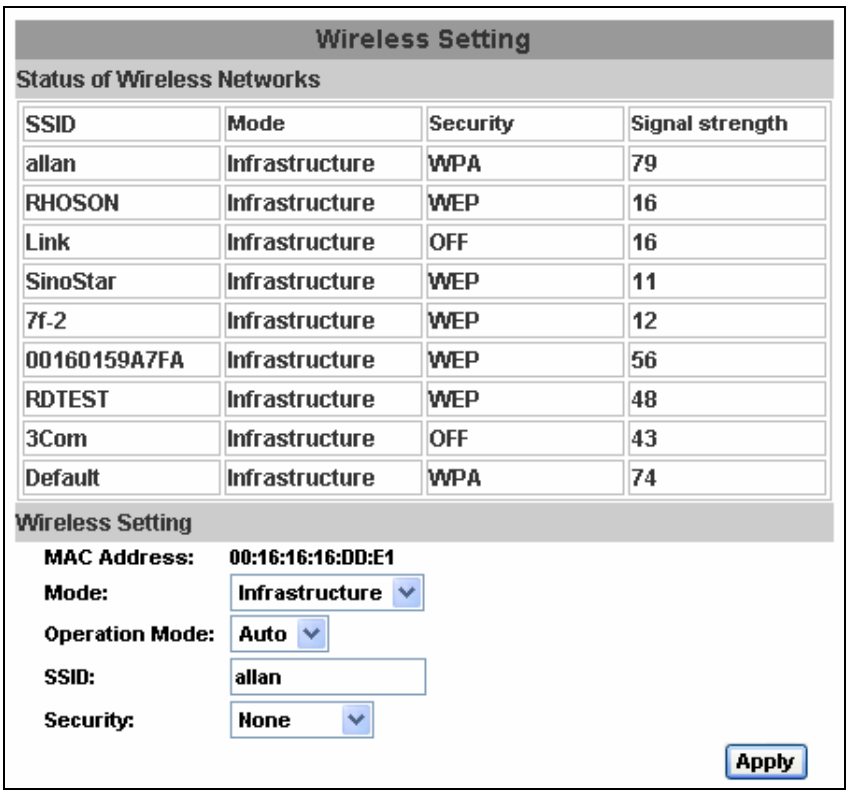
c. DDNS Status

1. Updating：Information update
2. Idle：Stop service
3. DDNS registration successful, can now log by http://<username>.ddns.camddns.com：Register successfully.
4. Update Failed, the name is already registered：The user name has already been used. Please change it.
5. Update Failed, please check your internet connection：Network connection failed.
6. Update Failed, please check the account information you provide：The server, user name, and password may be wrong

iv、 Wireless Setting (Wireless Network Optional)

Supports 802.11 b/g wireless connection.

Notice：Wireless network and Ethernet network use the same IP, the user has to unplug Ethernet cable, if Ethernet cable is not unplug, wireless setting can not be executed.



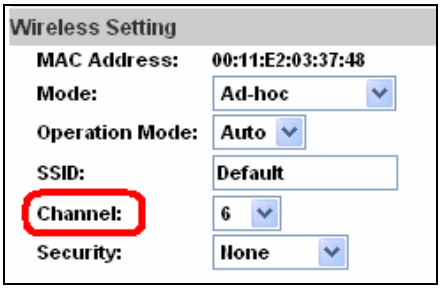
a. Status of Wireless Networks：

scan all wireless services.

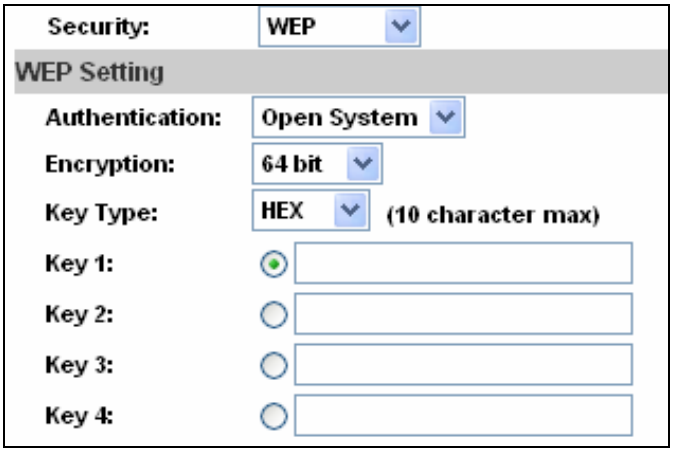
b. Wireless Setting：

1. **Mode**：There are Infrastructure and Ad-hoc. Infrastructure is for connecting with the router. Ad-hoc is for connecting with PC. There is “Channel” to select only when user uses Ad-hoc mode.

e.g. If one PC’s channel is 1, the other’s channel has to be 1, too.

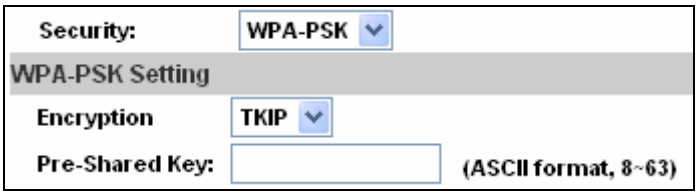


2. **SSID**：Based on AP setting.
3. **Channel**：This is used only when the user selects Ad-hoc mode in order to avoid conflict.
4. **Security**：It supports “None”, “WEP”, “WPA-PSK” security encryption based on the setting of the Router.
5. **WEP**:



- Authentication：There are Open System and Shared Keys, it is based on different encryptions. This has to be the same as the Router’s setting.
- Encryption：There are 64 bits and 128 bits. This is based on Key Type based on the Router’s setting.
- Key Type：There are HEX and ASCII. When selecting HEX, the user only can input 0~9 characters and use A, B, C, D, E, and F.
- When selecting ASCII, the user can input any character. (Case sensitive)
- Key 1~4：Based on Key Type to input characters.

6. **WPA-PSK**：



- Encryption：There are TKIP and AES.
- Pre-Shared Key：Allow any characters. (Case sensitive)

C. A/V Setting

i. Image Setting

Adjust “Brightness”, “Contrast”, “Hue”, “Saturation” to get clear video.

ii. Video Setting

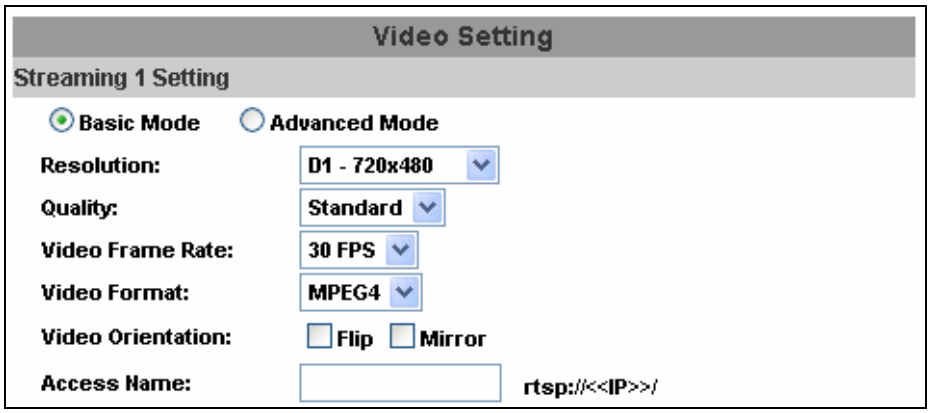
User may select 2 streaming output simultaneously:

Streaming 1 Setting: Basic mode and Advanced mode

Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode

(Max Video Frame Rate for both streaming combined is 30 FPS)

a. Streaming 1 Basic Mode：



1. Resolution：

   There are 4 resolutions to choose.

		NTSC	/	PAL
D1	–	720x480	/	720x576
4CIF	–	704x480	/	704x576
CIF	–	352x240	/	352x288
QCIF	–	176x120	/	176x144

2. Quality：

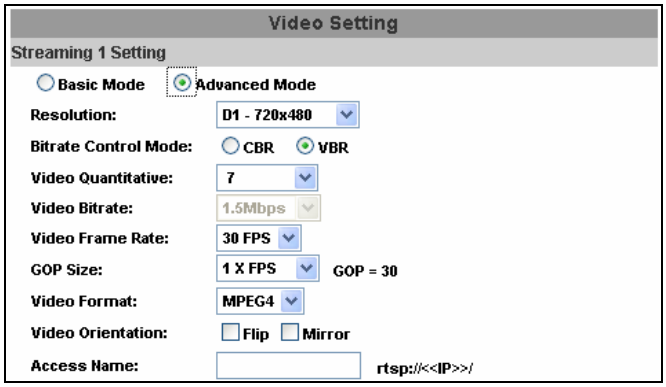
   There are 5 levels to adjust:

   Best/ High/ Standard/ Medium/ Low

   The higher the quality is, the bigger the file size is. Also not good for internet transmitting

3. Video Format：MPEG4 or JPEG
4. Video Orientation：Flip or Mirror
5. Access Name: RTSP output name

b. Streaming 1 Advanced Mode：



1. Resolution：

   There are 4 resolutions to choose.

		NTSC	/	PAL
D1	–	720x480	/	720x576
4CIF	–	704x480	/	704x576
CIF	–	352x240	/	352x288
QCIF	–	176x120	/	176x144

2. Bitrate Control Mode

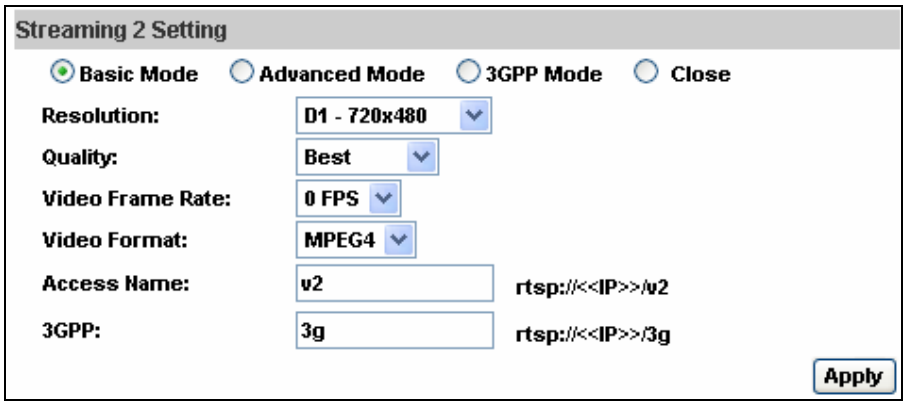
   There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use.

   CBR：64Kbps~4Mbps (the higher the CBR is, the better the video quality is)

   VBR：1~10 (Compression Rate)

3. Video Frame Rate
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：MPEG4 or JPEG
6. Video Orientation：Flip or Mirror
7. Access Name: RTSP output connecting route

c. Streaming 2 Basic Mode：

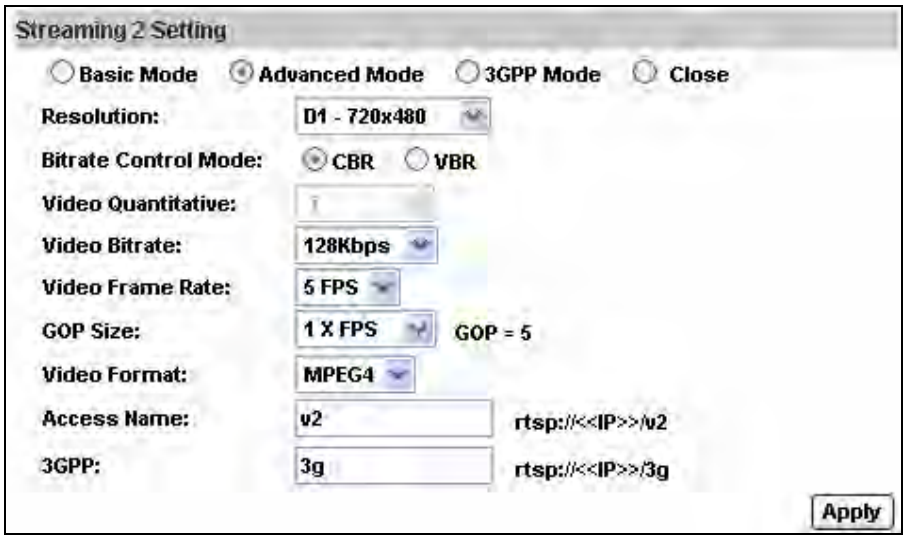


1. Resolution：
   There are 4 resolutions to choose.

		NTSC	/	PAL
D1	–	720x480	/	720x576
4CIF	–	704x480	/	704x576
CIF	–	352x240	/	352x288
QCIF	–	176x120	/	176x144

2. Quality：
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not good for internet transmitting
3. Video Format：MPEG4 or JPEG
4. Access Name: RTSP output connecting route
5. 3GPP: 3GPP output name

d. Streaming 2 Advanced Mode：

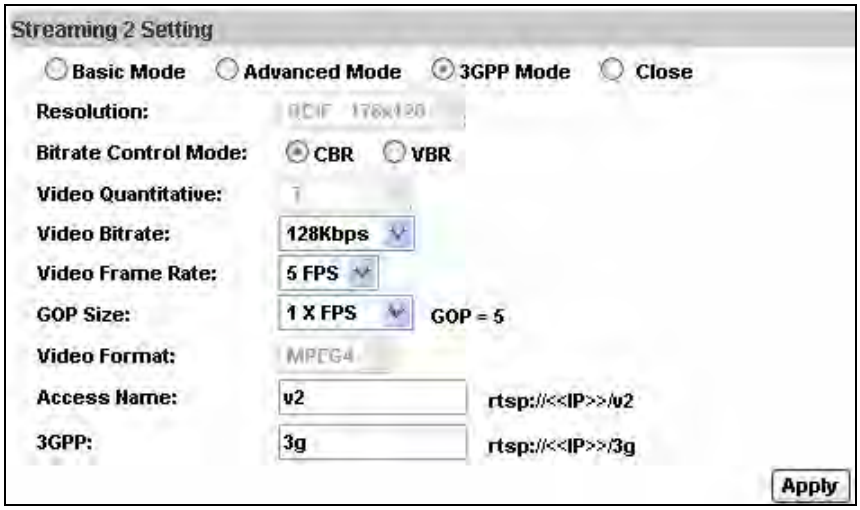


1. Resolution：
   There are 4 resolutions to choose.

		NTSC	/	PAL
D1	–	720x480	/	720x576
4CIF	–	704x480	/	704x576
CIF	–	352x240	/	352x288
QCIF	–	176x120	/	176x144

2. Bitrate Control Mode
   There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use.
   CBR：64Kbps~4Mbps (the higher the CBR is, the better the video quality is)
   VBR：1~10 (Compression Rate)
3. Video Frame Rate
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：MPEG4 or JPEG
6. Access Name: RTSP output name
7. 3GPP: 3GPP output name

e. Streaming 2, 3GPP mode:



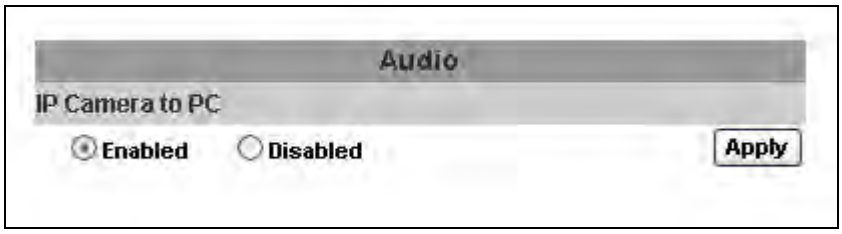
3GPP mode suggest setting: QCIF, lower than 128kbps, 5FPS, GOP= 1x FPS or 2x FPS, MPEG4 format

1. Fix Resolution：
   QCIF – 176x120 / 176x144
2. Bitrate Control Mode
   There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use.
   CBR：64Kbps~4Mbps (the higher the CBR is, the better the video quality is)
   VBR：1~10 (Compression Rate)
3. Video Frame Rate **(5 FPS is recommended)**
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：MPEG4 or JPEG
6. Access Name: RTSP output name
7. 3GPP: 3GPP output name

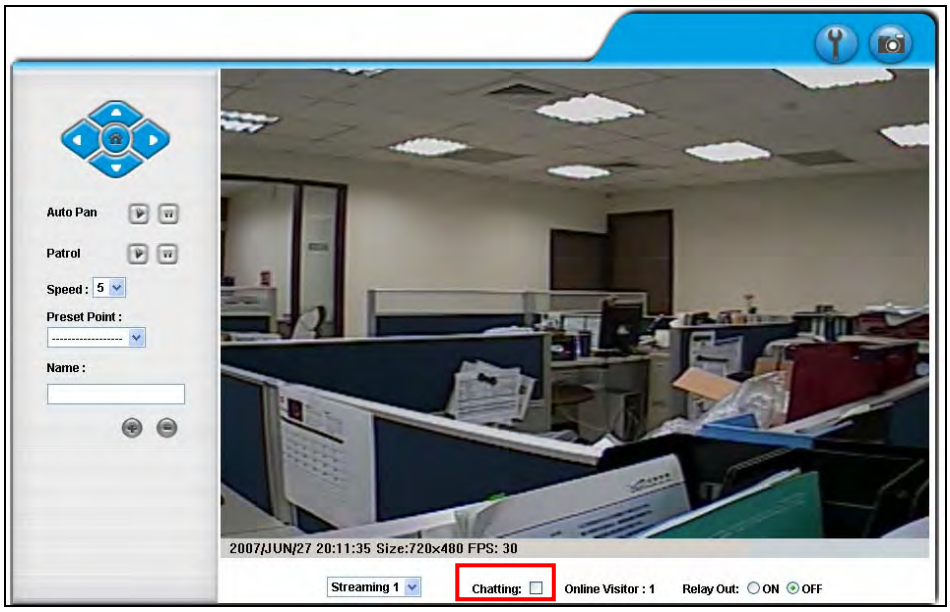
iii. Audio：

IP Camera supports 2-way audio. User can send audio from IP Camera Built-in mic to remote PC; User can also send audio from remote PC mic to IP Camera's external speaker.

a. Audio from IP camera built-in mic to local PC: select "Enable" to start this function.



b. Audio from local PC mic to IP camera, check “chatting” in the browsing page.



The Audio will not be smooth when enable SD card recording function simultaneously.

D. Event List

IP Camera provides multiple event settings.

i. Event Setting

a. Motion Detection:

IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send video to some specific mail addresses, transmit the video to remote ftp server, and save video to local SD card. To set up the motion area, click “Area Setting”. Using mouse to drag and draw the area. The same operation for area 2 and 3.

b. Record Time Setting：Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered

c. Network Dis-connected

When the network is down, it will save the video to local SD card.

This function is only enabled in wire connection.

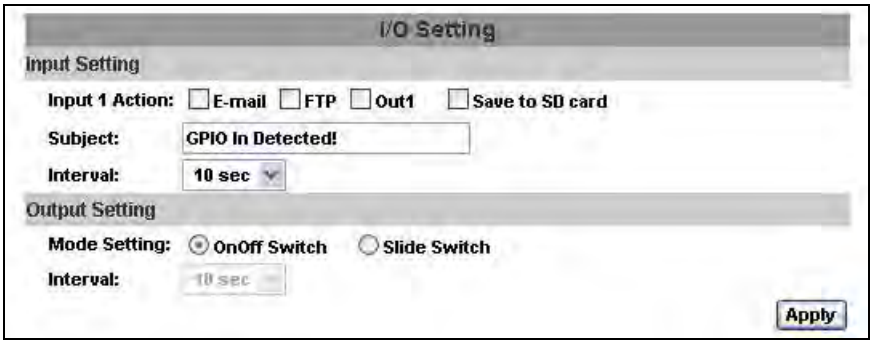
d. Network IP check:

Whenever the connection is down, it records the video to SD card. Make sure the video recording is continuous. To use this function, key in the IP address of the PC which has recording software installed. Enable the function of “Save to SD card”, then click “Apply”.

The interval of two video files recorded on SD card is fixed with 30 seconds.

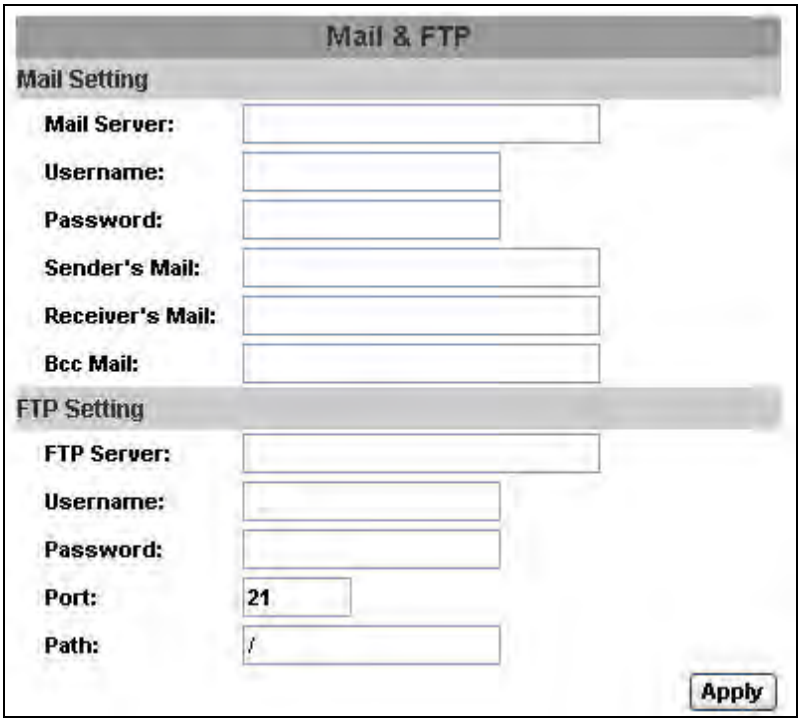
ii. I/O Setting

IP Camera supports 1 Input/ 1 Output. When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD card.



iii. Mail & FTP

To send out the video via mail of ftp, please set up the configuration first.



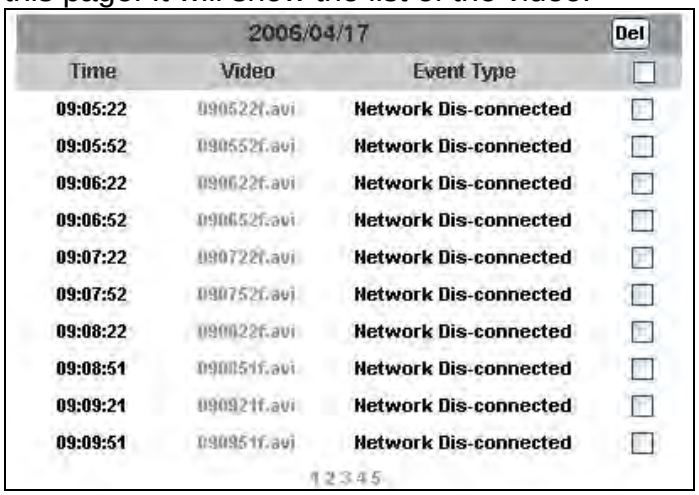
iv. SD card

Please Insert SD card before use it. Make sure pushing SD card into the slot completely.

Note：The use of the SD card will affect the operation of the IP Camera slightly, such as affecting the frame rate of the video.

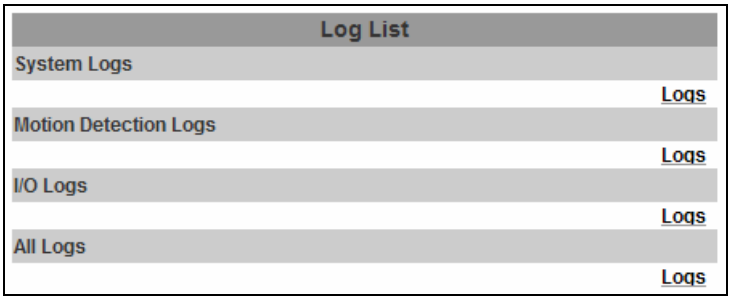
a. Playback:

1. It will show the capacity of the SD card. Click the date listed on this page. It will show the list of the video.



2. The video format is AVI. Click the video to start Microsoft Media Player to play it.
3. To delete the video, check it, then click Del. When the SD card is full, it will remove the oldest video automatically.

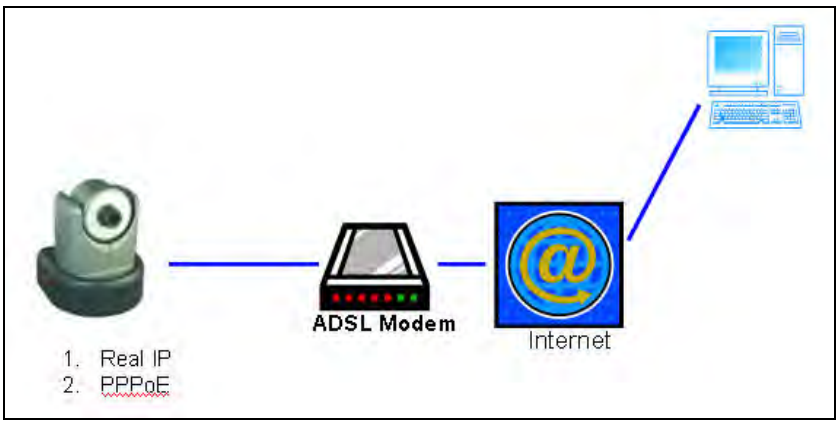
v. Log List



Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

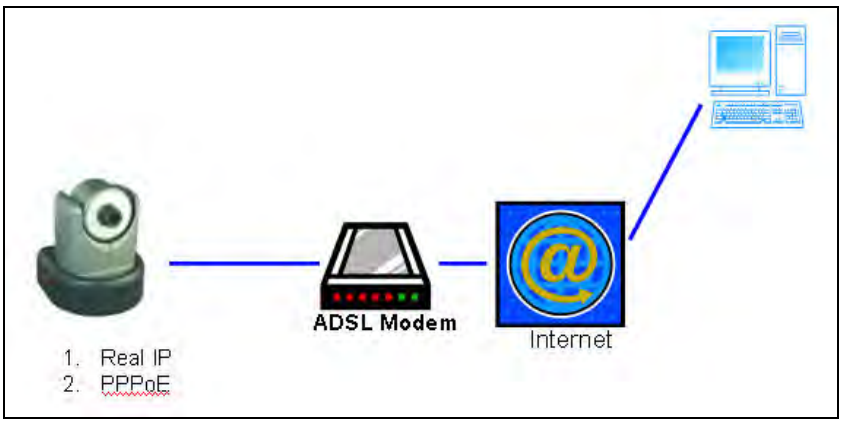
VI. Network Configuration

i、 Configuration 1：



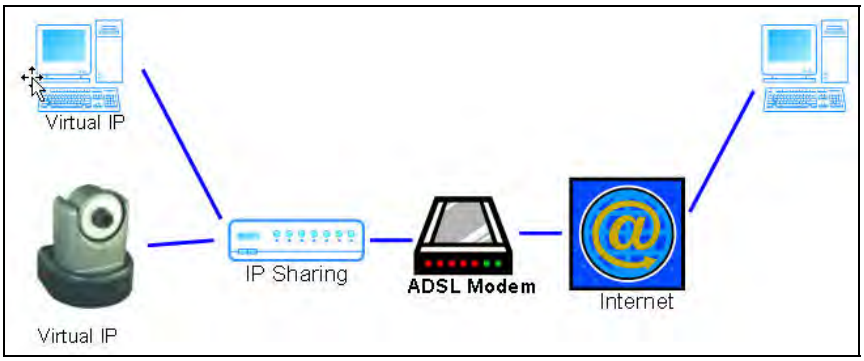
a. Internet Access：ADSL or Cable Modem
b. IP address：One real IP or one dynamic IP
c. Only IP Camera connects to the internet
d. For fixed real IP, set up the IP into IP Camera. For dynamic IP, start PPPoE.

ii、 Configuration 2：



a. Internet Access：ADSL or Cable Modem
b. IP address：More than one real IP or one dynamic IP
c. IP Camera and PC connect to the internet
d. Device needed：Switch Hub
e. For fixed real IP, set up the IP into IP Camera and PC. For dynamic IP, start PPPoE.

iii、 Configuration 3：

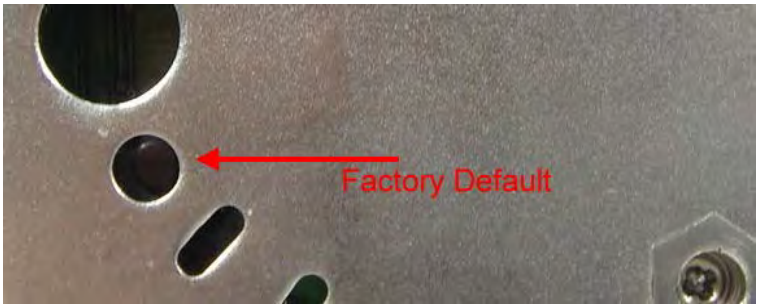


a. Internet Access：ADSL or Cable Modem
b. IP address：one real IP or one dynamic IP
c. IP Camera and PC connect to the internet
d. Device needed：IP sharing
e. Use virtual IP, set up port forwarding in IP sharing.

VII. Factory Default

i、 To recover the default IP address and password, please follow the following steps.

ii、 Remove power, and press and hold the button in the back of IP Camera.



iii、 Power on the camera. Don't release the button during the system booting.

iv、 It will take around 30 seconds to boot the camera.

v、 Release the button when camera finishes proceed.

vi、 Re-login the camera using the default IP (http://192.168.1.200), and user name (admin), password (admin).

VIII. Package contents

i、 IP Camera Network Camera

ii、 Adaptor

iii、 Ethernet Cable

iv、 CD title (User manual, IP installation Utility)

Appendix I

SD Card Recommended：

SanDisk 128M	Tracend 128M 80X
SanDisk 256M	Tracend 256M 80X
SanDisk 512M	Tracend 512M 80X
SanDisk 1G	Tracend 1G 80X
SanDisk 2G	Tracend 2G 80X
SanDisk 4G	Tracend 4G 80X